Algebraic Structures II – Abstract Algebra Course Description Spring 2018

Course Description (from IMSA's Learning Opportunities):

The content of this course is flexible, but is generally an introduction to abstract algebra. Students learn about groups, subgroups, homomorphisms, and the structure of various groups (such as the structure theorem for finitely generated Abelian groups, the Sylow theorems, etc.) Students also investigate the basics of rings. Ring topics include ideals and homomorphisms; PIDs, UFDs, and Euclidean domains; fields and (time permitting) field extensions including applications such as constructibility. All aspects of the course are presented with full mathematical rigor, and students are expected to produce proofs of equivalent quality to mathematics majors at a university.

This course is *not* intended to be a full college level course, but more of a survey course to introduce students to what Abstract Algebra has to offer.

Instructor:

- Name: Carlo Ordoñez
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Office Hours:

- A days Mods 2 and 5
- B days Mods 4 and 5
- C days Mod 6 and 8
- D days Mod 4
- I days 1-2 PM
- Other hours by appointment

Course Information

Room: A151 Sections 462.1 & 472.1: Mod 3 ABCD

Text(s) / Materials:

We will be using Fraleigh's *A First Course in Abstract Algebra*, 4th ed. Additional reading materials may be distributed by the teacher to emphasize particular topics.

The core material of this course will be the following:

Grading Policies

Homework may be assigned as problems from the textbook or as problems in a packet. They are due at the beginning of class; anything turned in after that time will be counted as late. For each day an assignment is late, 20% of earned points will be deducted from the grade.

Quizzes will be given roughly every couple of weeks going over the homework distributed the previous two weeks. They may be open note, where you may use any handouts or notes *you* have taken in class. For those taking notes by computer, you may use a printed copy of your notes.

There is a cumulative semester final which will focus on the basics of what we learned during the semester. This final will be *optional* for those students with a B+ or above.

Grade scale: A: 89% or above, A-: 85-89%, B+: 81-85%, B: 74-81%, B-: 70-74%, C+: 66-70%, C: 59-66%, C-: 55-59%, D: < 55%

The grade will be broken down as follows:

Quarter: 40% quizzes, 40% homework, 20% presentations

Semester:

- With final: 32% quizzes, 32% homework, 16% presentations, 20% final
- Without final: 40% quizzes, 40% homework, 20% presentations

Student Expectations:

Students in Abstract Algebra are expected to:

- Complete homework assignments in a timely manner. Homework is assigned to help students learn material in time for it to be applicable to the next section of material. Thus late homework exacts an intellectual penalty in not being prepared. It is also given a grade penalty to reflect its lateness.
- Keep current with course material. This material builds on itself, and not having complete understanding of today's material will make it much more difficult to learn tomorrow's.
- Keep good course notes.
- Practice with problems beyond the assigned homework, if they expect to earn high grades.
- Participate in class discussions.
- Seek help early if concepts are not clear.